

(T) The American-German partnership on MINERVA had continued for over twenty years. To the Americans it represented over 40 percent of NSA's total machine decryptions, and was regarded as an irreplaceable resource. To the Germans, however, it was even more important, accounting for 80 percent of the BND's diplomatic product reports. The BND regarded it as the linchpin of its highly productive intelligence relationship with the Americans.

(S) German and American case officers who had worked together remember the days of MINERVA with fondness. For almost everyone it was the highlight of their careers. Even during periods of disagreement, there was a recognition that the greater good of Western intelligence required that the project continue to run smoothly. Cultural differences, and the divergent interests of the two countries, were overcome, again and again, to fashion the most profitable intelligence venture of the Cold War.

(U) Boris Caesar Wilhelm Hagelin was raised under very different circumstances. Born in Adshikent, a small town near Baku in Azerbaijan, on July 2, 1892, he was the son of a wealthy Swedish industrialist who managed the Baku oilfields for the Nobel family. His father was a personal friend of Emanuel Nobel, who then headed the family, and it was assumed that Boris would someday assume management of the Nobel oil interests in Russia. After early schooling in Russia, Boris was sent to Sweden to finish his education, and graduated from the Royal Technical University in Stockholm in 1914 with a degree in mechanical engineering. He entered employment with ASEA (Allmänna Svenska Elektriska Aktiebolaget), the General Electric of Sweden, to apprentice for his presumed management role in the Nobel enterprises. But as the Russian Revolution so inconveniently intervened, it would not have been politic, or even possible, for him to go back to Baku, so he spent a year in the United States, marking time.

(U) The Story of the M-209

(U) The C-36, which eventually became known as the M-209 in American circles, was ideal for battlefield use. It was light, easy to carry, required no electricity, and could produce enciphered characters at the rate of almost one every two seconds. In 1937 Hagelin journeyed to the United States to peddle his wares, and there he first met William Friedman. The two men immediately hit it off -- they enjoyed similar interests, and stayed in touch with each other. Hagelin was again in the United States in 1939, trying to sell the C-36 and its successor, the C-38, and showed Friedman the improved machine.

(S) When, in 1950, North Korean forces attacked the south, Army codebreakers cracked the North's communications security like a nut in a vice. A year later that effort, too, was in tatters, a victim of North Korean communications security improvements. The codebreakers were to read none of the enemy's high-level systems for the rest of the war.

(S) And so American codebreaking entered into a period that CIA official Charles Collins once called "the Dark Ages of American cryptology." When Dwight Eisenhower became president, American cryptologists were reading none of the high-level ciphers of their three principal enemies.

(S) When Hagelin arrived in Washington, he and Friedman went to dinner at Friedman's favorite haunt, the exclusive Cosmos Club. Over dinner, Friedman set forth quite a different menu. Would it be possible, Friedman asked, to control the sale of the new machines in such a way that only certain countries could purchase the newer, more secure, machines? Hagelin sounded interested, and agreed to hear what Friedman's organization, the Armed Forces Security Agency (AFSA), had to offer.

(S) The Licensing Agreement was not much different, technically, from the Gentlemen's Agreement, but it was in writing. Hagelin could sell any machine to any NATO countries, plus Switzerland and Sweden. As for the rest, the agreement had an attached chart showing who could buy what. It was to last for five years, with automatic renewals annually past 1965 for another ten years. After 1975, renewals would require specific concurrence from both parties. The United States would have patent rights to all Hagelin equipment (except for the pocket device, which he still possessed) for the duration of the agreement.

(S) The sale was made on 4 June, and the agreement with the BND was contained in a 12 June 1970 memorandum of understanding between CIA and the BND. For CIA, COB Munich Tom Lucid signed, in a hand made shaky by Parkinson's disease, while the BND signature was illegible. It specified that the BND, operating through Deutsche Treuhand Gesellschaft-Munich (DTG-M), would purchase AEW. The sale price was 25 million Swiss Francs, \$5 million to be paid at contract closing, and the remainder to be paid in two equal installments on 1 June 1971 and 1 June 1972. Hagelin had remarried in 1969, and insisted that a pension be provided for his new wife -- Elsa Hagelin (nee Svensson), his late wife's former nurse -- after his death. All decisions would be subject to joint CIA-BND concurrence.

(S) To cover the whole arrangement, CIA and the BND agreed to a special cryptonym series. CAG would always be referred to as MINERVA, so as not to have to use the true company name. Foreign players in the game got cryptonyms. Nyberg, the only original CAG player who was witting, was named BALL, while his technical, but unwitting, counterpart, Oscar Stuerzinger, was called SIEGFRIED.

(S) Each major organization got a cryptonym: thus, CIA was EOS, NSA was ROCKY, BND was GAMMA, BfCh was SIGMA, and Siemens was OLYMPIA. The American firm Motorola, which had been brought into the MINERVA equation in the 1960s, was called NAVARO. AKN, the holding company that owned Crypto AG, was called OOLF. Even DTG, the accounting firm, had a cryptonym. It was called FIDELIO.

(S) The Partners named their joint project THESAURUS. In the late 1980s they changed the name to RUBICON. They held periodic conferences to establish or change policy. Essentially, the conferences undertook the role of a covert board of directors.

(S) Cipher readability was a vexing question. Why produce readable and readable equipment, NSA officers asked themselves, if they could sell readable equipment to everyone? So as time went on, the American position began to change. Americans became less and less agreeable to selling secure equipment to anyone. Why secure Spanish communications if they were yielding useful information? Why, indeed, secure the communications of some of the NATO countries? Greece and Turkey were taken off the 'secure' list at a very early date, even though they were NATO partners. The list of protected nations became shorter by the year.

(S) Germany, with a Eurocentric outlook, strongly supported the two-cryptologies approach. The BND did not like to sell readable equipment to its allies. According to bilateral MINERVA agreements, the BND had to concur in all CAG sales. But NSA remained tenacious, and in the long run, only a handful of NATO nations directly or indirectly involved in MINERVA, plus Sweden and Switzerland, remained protected.

Table 3

(S) Crypto AG: Sales and Profits, 1970-1975

Year	Sales (\$Fr)	Profits (\$Fr)	Profit as a Percentage of Sales
1970	15.17	1.38	9%
1971	15.88	.83	5%
1972	19.17	3.47	18%
1973	27.33	2.98	10%
1974	34.48	4.12	12%
1975	51.27	6.41	12.5%

(TS) The negotiations to repatriate the American hostages in Iran dominated the late Carter years. To President Carter, it was critical to know what the Iranians were up to, and since the Algerians were acting as intermediaries, that information came from Algerian diplomatic communications. Admiral Bobby Inman, then DIENSA, recalled in an interview that the President would frequently call him at his office at Fort Meade to request information that NSA could gain through Algerian communications. Those communications, Inman said, were MINERVA-enabled, and this was the 'absolutely critical ingredient' in enabling the President to appreciate the situation and manage the negotiations.

(S) Early the following year Wagner hired a bright new engineer, Dr. Mengia Caffisch -- again, without consulting the Partners. NSA quickly realized that she was too bright to remain unwitting, and frantically tried to cancel the hiring. Wagner was unmoved, and Caffisch stayed. But NSA had been right. She was too bright, and soon broke the new \$80 cryptology through a known plain text attack. She went on to expose the cryptographic weaknesses of other CAG products, and proceeded to design her own, unbreakable, cryptologies. Her technical brilliance attracted a following among several CAG engineers.

(S) When faced with customer revolt, he would get on a plane, sometimes alone, sometimes with Wagner, and fly off to confront the customer. This tactic led to several trips to Latin America to calm the waters. Chile continued to complain about weak CAG cryptologies, and Henry was afraid that the Chilean navy, as just inches away from breaking its own 501 machine. When the Chileans threatened to buy Datotek equipment, Henry assured them that Datotek could not get an export license. (Since Chuck Kinney was himself the approving authority, Henry was on solid ground.) Instead, Henry assured the suspicious Chileans that he would provide a more secure cryptologic just for them. Chile was thus saved as a CAG customer.

(S) After the Falkland Islands War, the Argentines discovered that the British and Americans had broken their systems. The furious Argentines summoned Henry to Buenos Aires to explain. The matter was not simple, said Henry, but it appeared that NSA had broken an analog speech system -- these systems were notoriously weak, he said, but the CAG 500 systems were unbreakable. The bluff worked. The Argentines swallowed hard, but kept buying CAG equipment.

(S) Rick Schroeder was then introduced in his true CIA colors, and they talked awhile longer. Henry said he was willing, and they shook hands. When they entered the garden where the luncheon was in progress, it was thumbs up. There was much congratulating and Gemutlichkeit. The luncheon became an event.

(S) Years later, Henry recalled the lunch. He felt that he had been welcomed into a secret society, and had learned the secret handshake. These people had become colleagues engaged in a critical struggle for the benefit of Western intelligence. These were people he could work with. It was, he said, the moment in which he felt at home. This was his mission in life.

(TS) The most lucrative target using influenced crypto was Iran. The Iranian target was 80-90 percent readable, thanks to the Iranian penchant for buying from MINERVA. In 1988, over 19,000 Iranian decrypts were turned into product reports, covering everything from hostage issues to the Iranian conflicts with other Gulf States.

(S) The next day Munich was informed that the White House had rejected the "bail" sophistry. It was clearly "ransom," and could not be paid. RND President Konrad Porzner was to be informed that no American money was to be used to secure Buehler's release.

(S) When informed of the American stance, Porzner decided that if necessary Germany would proceed alone, and pay the entire \$1 million. Perhaps the Americans could be talked into paying their share later, but even if they could not, this was too important a matter to let a peculiarly American prohibition stop the release of Buehler. Germany was under no such prohibition, and would do what it believed was necessary.

(S) Grupe appeared on camera, interviewed by a Swiss journalist. He bluntly denied the allegations, terming them warmed-over claims by disgruntled employees. Buehler was fired because company management had lost trust, and because he refused to turn over his lawyer's files to the firm. He dismissed as "insanity" the allegations that the Germans were manipulating the gear. CAG sold in Germany, he pointed out, and in Switzerland, which had given the company a "clean bill of health." The whole thing was utter nonsense. As to allegations that foreign intelligence organizations were known to visit CAG, of course they had. They were customers, and good ones. They trusted the security of CAG gear.

(S) Grupe's appearance cast enough doubt on Buehler's allegations to blur the issue. Langley hoped that viewers would come away at least a little confused about charges that had seemed so clear in pre-program and pre-book publicity. Grupe's performance was credible, and may have saved the program.

(S) For customers, the Buehler affair came as a shock. The Argentine Navy threatened to buy everything from other suppliers, and a government decision to make a major purchase from CAG was immediately placed under review. The Italians, always a little skittish about CAG products, seemed likely to fly out of the CAG orbit. The Saudis, the single biggest customers, halted orders pending clarification. The CAG salesman in Indonesia was having trouble defending CAG products, and appeared to have his own suspicions. Egypt began peppering the company with questions about crypto security. One of the few countries that showed little reservation was Iran. It resumed its purchase of CAG equipment almost immediately.

(S) The HYDRA affair was the most serious security breach in the history of the program, and its aftershocks continued to rumble through the end of the decade. But it did not cause its demise, and at the turn of the century MINERVA was still alive and well. It was a very narrow escape.

1. (S) Diverging worldviews resulting from the end of the Cold War, in which Germany was drawing closer to its European partners, and was increasingly reluctant to sell readable gear to European nations. Since the German reunification of 1990, the Germans constantly reminded the Americans of their new status in the world.

2. (S) The increasing need for infusions, which the Germans could ill afford. (Moreover, the involvement of a partner in the infusion mechanism made the process all the more complex and slowed down the arrival of the money into the CAG coffers.)